

Attachment L. Glossary

Attachment L - Glossary

Definitions of words or phrases used in this TMDL are as follows:

Acute Toxicity – A chemical stimulus severe enough to rapidly induce an effect; in aquatic toxicity tests, an effect observed within 96 hours or less is considered acute. When expressed as toxic units acute (TU_a), $TU_a = 100/96\text{-hr LC } 50\%$. Acute toxicity can also be expressed as lethal concentration 50% (LC 50). LC 50 is the percent of sample giving 50% survival of test organisms.

Basin Plan – is the plan for the protection of water quality prepared by the Regional Water Quality Control Board in response to the Porter-Cologne Water Quality Control Act. The Basin Plan for the San Diego Region is also known as the “Water Quality Control Plan for the San Diego Basin (9)” and contains Water Quality Standards for the federal Clean Water Act.

Beneficial Uses – are the uses of water necessary for the survival or well being of man, plants, and wildlife. These uses of water serve to promote the tangible and intangible economic, social, and environmental goals. “Beneficial Uses” of the waters of the State that may be protected against include, but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. Existing beneficial uses are uses that were attained in the surface or ground water on or after November 28, 1975; and potential beneficial uses are uses that would probably develop in future years through the implementation of various control measures. “Beneficial Uses” are equivalent to “Designated Uses” under federal law [California Water Code Section 13050(f)].

Best Management Practices (BMPs) – is the practice or combination of practices that are determined to be the most effective, practicable means of preventing or reducing the amount of pollution generated by point and nonpoint sources to a level compatible with water quality goals (including technological, economic, and institutional considerations). BMPs are defined in 40 CFR 122.2 as schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States.

Chronic Toxicity - when expressed as toxic units chronic (TU_c), $TU_c = 100/NOEL$, where NOEL is the No Observed Effect Level.

Clean Water Act (CWA) – The Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972), Public Law 92-500, as amended by Public Law 96-483 and Public Law 97-117, 33 U.S.C. 1251 et seq. The Clean Water Act (CWA) contains a number of provisions to restore and maintain the quality of the nation’s water resources. One of these provisions is Section 303(d), which establishes the TMDL program.

Clean Water Act Section 303(d) Water Body - is an impaired water body in which water quality does not meet applicable water quality standards and/or is not expected to meet water quality standards, even after the application of technology based pollution controls required by the Clean Water Act.

Code of Federal Regulations (CFR) - is an organized system of rules published in the Federal Register by the Executive Departments and agencies of the Federal Government. Title 40 contains all environmental regulations and Chapter 1, Subchapter D specifies Water Programs.

Contamination - as defined in the Porter-Cologne Water Quality Control Act, contamination is “an impairment of the quality of waters of the state by waste to a degree which creates a hazard to the public health through poisoning or through the spread of disease. ‘Contamination’ includes any equivalent effect resulting from the disposal of waste whether or not waters of the state are affected.”

Copermittee - is defined at 40 CFR 122.26(b)(1).

Diazinon – is a pesticide also known as *O,O*-diethyl *O*-[6-methyl-2-(1-methylethyl)-4-pyrimidinyl]ester, or as *O,O*,diethyl-2-isopropyl-4-methyl-6-pyrimidinyl-phosphorothionate.

Illicit Discharge – is any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities. Illicit discharge is defined at 40 CFR 122.26(b)(2).

Integrated Pest Management (IPM) – is a pest management strategy that focuses on long-term prevention or suppression of pest problems with minimum impact on human health, the environment, and nontarget organisms.

Large or Medium Municipal Separate Storm Sewer System - is defined at 40 CFR 122.26(b)(4) & (7).

Lethal-Concentration for 50% Mortality (LC50) – is the toxicant concentration that would cause death in fifty percent (50%) of the test population.

Lowest-Observed-Effect-Concentration (LOEC) – is the lowest concentration of toxicant to which organisms are exposed in a full life-cycle or partial life-cycle (short-term) test, which causes adverse effects on the test organisms. The LOEC_{survival} is the lowest toxicant concentration that causes adverse effects on survival; and the LOEC_{growth/reproduction} is the lowest toxicant concentration that causes effects on growth and reproduction. This would mean that there is no significant difference between the test solution and the control, as determined by hypothesis testing.

Micrograms per liter (µg/L) – One microgram per liter (µg/L) is equivalent to one thousand nanograms per liter. Nanograms per liter is equivalent to “parts per trillion”.

Maximum Extent Practicable (MEP) – is the technology-based standard established by Congress in CWA §402(p)(3)(B)(iii) that municipal dischargers of storm water (MS4s) must meet. Technology-based standards establish the level of pollutant reductions that dischargers must achieve, typically by treatment or by a combination of treatment and best management practices (BMPs). MEP generally emphasizes pollution prevention and source control BMPs primarily (as the first line of defense) in combination with treatment methods serving as a backup (additional line of defense). MEP considers economics and is generally, but not necessarily, less stringent than BAT. A definition for MEP is not provided either in the statute or in the regulations. Instead the definition of MEP is dynamic and will be defined by the following process over time: municipalities propose their definition of MEP by way of their Urban Runoff Management Plan. Their total collective and individual activities conducted pursuant to the Urban Runoff Management Plan becomes their proposal for MEP as it applies both to their overall effort, as well as to specific activities (e.g., MEP for street sweeping, or MEP for municipal separate storm sewer system maintenance). In the absence of a proposal acceptable to the SDRWQCB, the SDRWQCB defines MEP.

In a memo dated February 11, 1993, entitled "Definition of Maximum Extent Practicable," Elizabeth Jennings, Senior Staff Counsel, SWRCB addressed the achievement of the MEP standard as follows: *“To achieve the MEP standard, municipalities must employ whatever Best Management Practices (BMPs) are technically feasible (i.e., are likely to be effective) and are not cost prohibitive. The major emphasis is on technical feasibility. Reducing pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or the BMPs would not be technically feasible, or the cost would be prohibitive. In selecting BMPs to achieve the MEP standard, the following factors may be useful to consider:*

- a. Effectiveness: Will the BMPs address a pollutant (or pollutant source) of concern?*
- b. Regulatory Compliance: Is the BMP in compliance with storm water regulations as well as other environmental regulations?*
- c. Public Acceptance: Does the BMP have public support?*
- d. Cost: Will the cost of implementing the BMP have a reasonable relationship to the pollution control benefits to be achieved?*
- e. Technical Feasibility: Is the BMP technically feasible considering soils, geography, water resources, etc? The final determination regarding whether a municipality has reduced pollutants to the maximum extent practicable can only be made by the Regional or State Water Boards, and not by the municipal discharger. If a municipality reviews a lengthy menu of BMPs and chooses to select only a few of the least expensive, it is likely that MEP has not been met. On the other hand, if a municipal discharger employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit derived, it would have met the standard.*

Where a choice may be made between two BMPs that should provide generally comparable effectiveness, the discharger may choose the least expensive alternative and exclude the more expensive BMP. However, it would not be acceptable either to reject all BMPs that would address a pollutant source, or to pick a BMP base solely on cost, which would be clearly less effective. In selecting BMPs the municipality must make a serious attempt to comply and practical solutions may not be lightly rejected. In any case, the burden would be on the municipal discharger to show compliance with its permit. After selecting a menu of BMPs, it is the responsibility of the discharger to ensure that all BMPs are implemented.”

Municipal Separate Storm Sewer System (MS4) - is defined at is defined at 40 CFR 122.26(b)(8). A MS4 is a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, natural drainage features or channels, modified natural channels, man-made channels, or storm drains): (i) Owned or operated by a State, city town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or designated and approved management agency under section 208 of the CWA that discharges to waters of the United States; (ii) Designated or used for collecting or conveying storm water; (iii) Which is not a combined sewer; (iv) Which is not part of the Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

Historic and current development make use of natural drainage patterns and features as conveyances for urban runoff. Urban streams used in this manner are part of the municipalities MS4 regardless of whether they are natural, man-made, or partially modified features. In these cases, the urban stream is both an MS4 and a receiving water.

Municipal Storm Water Conveyance System – (See Municipal Separate Storm Sewer System or MS4).

National Pollution Discharge Elimination System (NPDES) – The national program for issuing, modifying, revoking and reissuing, terminating, monitoring, and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of the Clean Water Act. NPDES permits pertain to the discharge of waste to surface waters. All State and Federal NPDES permits are also Waste Discharge Requirements (WDRs).

No Observable Effects Concentration (NOEC) – is the highest concentration of toxicant to which organisms are exposed in a full life-cycle or partial life-cycle (short-term) test, that causes no observable effect on survival (NOEC_{survival}); and no observable effect on growth and reproduction (NOEC_{growth}) of the test population. This would mean that there is no significant difference between the test solution and the control, as determined by hypothesis testing.

Non Point Source (NPS) – refers to diffuse, widespread sources of pollution. These sources may be large or small, but are generally numerous throughout a watershed. Non Point Sources include but are not limited to urban, agricultural, or industrial areas, roads, highways, construction sites, communities served by septic systems, recreational boating activities, timber harvesting, mining, livestock grazing, as well as physical changes to stream channels, and habitat degradation. NPS pollution can occur year round any time rainfall, snowmelt, irrigation, or any other source of water runs over land or through the ground, picks up pollutants from these numerous, diffuse sources and deposits them into rivers, lakes, and coastal waters or introduces them into ground water.

Non-Storm Water - consists of all discharges to and from a storm water conveyance system that do not originate from precipitation events (i.e., all discharges from a conveyance system other than storm water). Non-storm water includes illicit discharges, non-prohibited discharges, and NPDES permitted discharges. An illicit discharge is defined at 40 CFR 122.26(b)(2) as any discharge to a municipal storm water conveyance system that is not composed entirely of storm water except discharges pursuant to a separate NPDES permit and discharges resulting from emergency fire fighting activities.

Numeric Targets – A measurable value determined for the pollutant of concern which, if achieved, is expected to result in the attainment of water quality standards in the listed waterbody.

Parts per trillion (ppt) – One part per trillion (ppt) is equivalent to one nanogram per liter (ng/L). One thousand nanograms per liter is equivalent to 1 microgram per liter (µg/L).

Point Source – is any discernible, confined, and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operations, landfill leachate collection systems, vessel, or other floating craft from which pollutants are or may be discharged.

Pollutant – is broadly defined as any agent that may cause or contribute to the degradation of water quality such that a condition of pollution or contamination is created or aggravated. Under Clean Water Act (CWA) Section 502(6) a pollutant is defined as dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water.

Pollution - as defined in the Porter-Cologne Water Quality Control Act, pollution is “the alteration of the quality of the waters of the State by waste, to a degree that unreasonably affects the either of the following: (1) The waters for beneficial uses; or (2) Facilities that serve these beneficial uses.” Pollution may include contamination.

Pollution Prevention - is defined as practices and processes that reduce or eliminate the generation of pollutants, in contrast to source control, treatment, or disposal.

Porter-Cologne Water Quality Control Act – also referred to as the ‘Porter-Cologne Act’, it is contained in the California Water Code, Division 7, §13000 et seq. It is the principle law governing water quality regulation in California. It is the policy of the state, as set forth in Porter-Cologne, that the quality of all the waters of the state shall be protected, that all activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason, and that the state must be prepared to exercise its full power and jurisdiction to protect the quality of water in the state from degradation. Porter-Cologne directs the State Water Resources Control Board to formulate and adopt state policies for controlling water quality and designates the State Board as the state water pollution control agency for all purposes stated in the Clean Water Act. Porter-Cologne establishes the policies that are to be implemented and authorities that are to be used in achieving the goals of the Clean Water Act.

Post-Construction BMPs –are a subset of BMPs including structural and non-structural controls which detain, retain, filter, or educate to prevent the release of pollutants to surface waters during the final functional life of development.

Regional Board – a.k.a. California Regional Water Quality Control Board

Sediment – is soil, sand, and minerals washed from land into water. Sediment resulting from anthropogenic sources (i.e. human induced land disturbance activities) is considered a pollutant. This Order regulates only the discharges of sediment from anthropogenic sources and does not regulate naturally occurring sources of sediment. Sediment can destroy fish-nesting areas, clog animal habitats, and cloud waters so that sunlight does not reach aquatic plants.

State Board – a.k.a. State Water Resources Control Board

Storm Water – is as defined urban runoff and snowmelt runoff consisting only of those discharges which originate from precipitation events. Storm water is that portion of precipitation that flows across a surface to the storm drain system or receiving waters. Examples of this phenomenon include: the water that flows off a building’s roof when it rains (runoff from an impervious surface); the water that flows into streams when snow on the ground begins to melt (runoff from a semi-pervious surface); and the water that flows from a vegetated surface when rainfall is in excess of the rate at which it can infiltrate into the underlying soil (runoff from a pervious surface). When all factors are equal, runoff increases as the perviousness of a surface decreases. During precipitation events in urban areas, rain water picks up and transports pollutants through storm water conveyance systems, and ultimately to waters of the United States.

Total Maximum Daily Load (TMDL) - is the maximum amount of a pollutant that can be discharged into a water body from all sources (point and non-point) and still maintain water quality standards. Under Clean Water Act section 303(d), TMDLs must be

developed for all water bodies that do not meet water quality standards after application of technology-based controls.

Toxicity – is the adverse response(s) of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies). The water quality objectives for toxicity provided in the Water Quality Control Plan, San Diego Basin, Region 9, (Basin Plan), state in part... *“All waters shall be free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.... The survival of aquatic life in surface waters subjected to a waste discharge or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge”*.... Urban runoff discharges from MS4s often contain pollutants that cause toxicity.

Toxic-Unit for Acute Effects (TU_a) – equals $100/\text{NOEC}_{\text{survival}}$. A TU_a value of 1 indicates that no toxicity was observed. Urban runoff discharges from MS4s are considered toxic when: (1) the toxic effect observed in an acute toxicity test exceeds zero Toxic Units Acute (TU_a=0); or (2) the toxic effect observed in a chronic toxicity test exceeds one Toxic Unit Chronic (TU_c=1).

Urban Runoff - is defined as all flows in a storm water conveyance system and consists of the following components: (1) storm water (wet weather flows) and (2) non-storm water illicit discharges (dry weather flows).

Water Quality Objectives – are the numerical or narrative limits on constituents or characteristics of water designated to protect designated beneficial uses of the water. [California Water Code Section 13050 (h)]. California’s water quality objectives are established by the State and Regional Water Boards in the Water Quality Control Plans.

Water Quality Standards - are defined as the beneficial uses (e.g., swimming, fishing, municipal drinking water supply, etc.,) of water and the water quality objectives necessary to protect those uses.

Watershed – is that geographical area which drains to a specified point on a watercourse, usually a confluence of streams or rivers (also known as drainage area, catchment, or river).